

JUL 12 2007

Application No.: 10/057,959Docket No.: 30012961-2 US (1509-269)**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (previously presented) An audio system comprising:
an audio source;
a playing terminal adapted to be coupled to the audio source by a data link; and
an audio transducer arrangement adapted to be coupled to the playing terminal,
the audio source being arranged to derive an audio component comprising (a)
audio data corresponding to aural content of an audible sound or track, and (b)
positional data corresponding to the position in space relative to transducers of the
audio transducer arrangement, at which the audible sound or track is to be perceived by
a user, the audio source being arranged to be coupled with the playing terminal so the
positional data (b) and the audio data (a) are coupled from the audio source to the
playing terminal at first and second bit rates, respectively, where the second bit rate is
lower than that of the first bit rate, the playing terminal being arranged to cause the
transducers of the audio transducer arrangement to derive aural outputs in accordance
with the audio data (a) and the positional data (b).

2. (previously presented) An audio system according to claim 1, further
comprising a user control device coupled to the playing terminal and arranged to

Application No.: 10/057,959**Docket No.: 30012961-2 US (1509-269)**

enable user-selection of one of the audible sounds or tracks, corresponding to one of the audio components outputted from the audio transducer arrangement, as a focus sound or track.

3. (previously presented) An audio system according to claim 2, wherein the user control device comprises a position sensor for being mounted on a body part of a user, the position sensor being arranged to cause selection of an audible sound or track as the focus sound or track by generating position data indicating the relative position of the user's body part, the playing device thereafter being arranged for comparing the position data with the positional data for each of the audio components for determining the audible sound or track to which the user's body part is directed.

4. (original) An audio system according to claim 3, wherein the position sensor is a head-mountable sensor, the playing device being arranged to determine the audible sound or track to which a part of the user's head is directed.

5. (original) An audio system according to claim 2, wherein the user control device comprises a selection switch or button.

6. (previously presented) An audio system according to claim 2, wherein the user control device comprises a voice recognition facility arranged to receive audible

Application No.: 10/057,959Docket No.: 30012961-2 US (1509-269)

commands from a user and to interpret the received commands for determining which audible sound or track is selected as the focus sound or track.

7. (previously presented) An audio system according to claim 1, wherein coupling between the audio source and the playing terminal includes a wireless data link.

8. (previously presented) An audio system according to claim 7, wherein the wireless data link includes a mobile telephone connection.

9. (previously presented) An audio system according to claim 1, wherein the audio source includes a network-based device.

10. (previously presented) An audio system comprising: an audio source arrangement;

an audio playing arrangement adapted to be coupled to the audio source arrangement by a data link; and

an audio production arrangement coupled to the playing terminal,

wherein the audio source arrangement is arranged to derive a plurality of audio components, each derived audio component comprising (a) audio data indicative of aural content of an audible sound or track, and (b) positional data indicative of the position in space at which the aural content of each aural sound or track is perceived to

Application No.: 10/057,959**Docket No.: 30012961-2 US (1509-269)**

be by a user relative to transducers adapted to be driven by the audio production arrangement, the audio source arrangement being arranged to (i) generate, from the plurality of audio components, a first set of spatially processed data for transmission over the data link at a first bit rate, and (ii) individually transmit each of the audio components over the data link at a bit-rate which is lower than that of the first bit rate, the audio playing arrangement being arranged to receive the first set of spatially processed data and each individual audio component, at their respective bit-rates, to generate a second set of spatially processed data using the individual audio components, and to output the first and second sets of spatially processed data to the audio production arrangement.

11. (currently amended) A playing terminal for use in an audio system, the playing terminal comprising:

a first port for receiving data from an audio source via a data link; and

a second port for outputting data, from the playing terminal, to transducers of an audio transducer arrangement,

wherein the playing terminal is arranged to receive, via the first port, a plurality of audio components, each audio component comprising (a) audio data corresponding to aural content of an audible sound or track, and (b) positional data corresponding to a position in three-dimensional space, relative to transducers of the audio transducer arrangement, at which each audible sound or track is to be perceived by a user, the positional~~spatially processed~~ data (b) being adapted to be received at a bit-rate which is

Application No.: 10/057,959Docket No.: 30012961-2 US (1509-269)

greater than that at which the audio data is received, the playing terminal being arranged to respond to the received audio data (a) and the received positional data (b) by deriving signals for driving the transducers so that the transducers can derive plural aural outputs that the user can perceive the aural content as coming from different positions in space and to selectively apply, at different times, by way of the second port different ones of the audio data (a) to the transducers so that at the different times different ones of the aural content (a) are perceived by the user to come from different locations determined by positional data (b) and by selection by the user.

12. (previously presented) A method of operating a playing terminal for use in an audio system, the method comprising:

receiving, at the playing terminal, a plurality of audio components transmitted over a data link from a remote audio source, each component comprising (a) audio data corresponding to aural content of an audible sound or track, and (b) positional data corresponding to a position in three-dimensional space relative to transducers of an audio transducer arrangement, at which each audible sound or track is to be perceived by a user;

receiving, at the playing terminal, first and second sets of audio data (a) and positional data (b), the positional data (b) being received at a bit-rate which is greater than the bit-rate at which the audio data (a) is received, the first set being associated with a first aural content at a first of the positions, the second set being associated with a second aural content at a second of the positions; and

Application No.: 10/057,959Docket No.: 30012961-2 US (1509-269)

selectively causing the first and second aural contents to be applied to the transducers so that during a first interval the user perceives the first aural content as coming from the first position and during a second interval the user perceives the second aural content as coming from the second position.

13. (previously presented) A method according to claim 12, wherein a user control device is coupled to the playing terminal, the method further comprising operating the user control device so as to select an audible sound or track corresponding to one of the audio components outputted from the audio transducer arrangement, as a focus sound or track.

14. (previously presented) A method according to claim 13, wherein the step of operating the user control device comprises operating a position sensor mounted on a body part of a user, the position sensor causing selection of an audible sound or track as the focus sound or track by generating position data indicating the relative position of the user's body part, the playing device thereafter comparing the position data with the positional data for each of the audio components so as to determine the audible sound or track to which the user's body part is directed.

15. (original) A method according to claim 14, wherein the position sensor is a head-mountable sensor, the playing device determining the audible sound or track to which a part of the user's head is directed.

Application No.: 10/057,959Docket No.: 30012961-2 US (1509-269)

16. (original) A method according to claim 13, wherein the step of operating the user control device comprises operating a selection switch or button.

17. (previously presented) A method according to claim 13, wherein the step of operating the user control device comprises operating a voice recognition facility so the facility receives audible commands from a user and interprets the received commands determines which audible sound or track is selected as the focus sound or track.

18. (previously presented) A method according to claim 12, wherein the data link includes a wireless data link.

19. (previously presented) A method according to claim 18, wherein the wireless data link includes a mobile telephone connection.

20. (previously presented) A computer program stored on a computer-usable medium, the computer program comprising computer-readable instructions for causing a processing device to perform the steps of:

receiving, at the processing device, a plurality of audio components transmitted over a data link from a remote audio source, each component comprising (a) audio data corresponding to an audible sound or track, and (b) positional data corresponding to the

Application No.: 10/057,959**Docket No.: 30012961-2 US (1509-269)**

position in three-dimensional space, relative to transducers of an audio transducer arrangement, at which each audible sound or track is to be perceived by a user, the audio data (a) and positional data (b) being transmitted over the data link received at the processing device, under control of the program, at first and second bit rates, respectively;

the second bit-rate being greater than the first bit-rate; and

generating, in response to the received plurality of audio components, first and second sets of spatially processed data indicative of aural content indicated by the first and second sets of the audio data (a) at first and second locations indicated by the positional data (b), and simultaneously applying the first and second sets of spatially processed data to the transducer arrangement coupled to the playing terminal.

21. (previously presented) The method of claim 12, wherein the method is performed as a way of presenting different computer-based services, the different transducers being located at different positions relative to a user of the terminal so the sounds originating at the different transducers are perceived by the user as originating from different directions and the sound originating at each direction is associated by the user with a different one of the computer-based services, the high bit rate data controlling the directions from which the audio data associated with a particular computer-based service is perceived by the user to be derived.

Application No.: 10/057,959Docket No.: 30012961-2 US (1509-269)

22. (previously presented) The audio system of claim 1 in combination with a source computer arrangement, the source computer arrangement including plural different computer-based services, the different transducers being located at different positions relative to a user of the terminal so the sounds originating at the different transducers are adapted to be perceived by the user as originating from different directions and the sound originating from each direction is associated by the user with a different one of the computer-based services, the high bit rate data being adapted to control from which direction is derived the audio data associated with a particular computer-based service.

23. (currently amended) A source computer arrangement for controlling an output arrangement of a playing terminal including plural different audio output transducers, the different transducers being located at different positions, the terminal being arranged to be connected to the transducers so sounds originating at the different transducers are adapted to be perceived by a user of the terminal as originating from different directions, the source computer arrangement including:

plural audio sources adapted to be coupled to the terminal via a data link, each of the audio sources being associated with sounds perceived by the user as originating from the different directions, each of the audio sources including (a) audio data relating to aural content of an audible sound or track perceived by the user as originating from one of the directions and (b) positional data indicative of the direction from which the user perceives the aural content as originating, the audio sources being arranged to

Application No.: 10/057,959

Docket No.: 30012961-2 US (1509-269)

transmit to the terminal via the link (i) the audio data at a first bit rate, and (ii) the positional data at a second bit rate that exceeds the first bit rate.

24. (Canceled)